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AUTHOR Holmberg, Borje
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ABSTRACT

A questionnaire developed in six languages--English, French, German, Polish, Russian, and Spanish--was mailed to more than 1,500 organizations known by the FernUniversitat in West Germany to be connected in some way to distance education, correspondence education, or home study. The study was undertaken as a response to the lack of systematic documentation on distance teaching institutions, and the creation of a databank that would allow easy access to the information was an important goal. The questionnaire was comprehensive and asked for statistical information of a sensitive nature, as well as information on organization, teaching, learning, counselling, examining, student service, and media applications. Useful replies received from 203 institutions included 37 from the United States, 23 from the United Kingdom, 22 from Australia, 16 from Canada, and 15 from the Federal Republic of Germany. The responses were subjected to both quantitative and qualitative analysis and the findings reported in this document provide information on: (1) the organization of distance teaching schools and universities; (2) the media used; (3) general principles of teaching and learning with special reference to the degree of independence expected of distant students or developed by distance education; and (4) student support and examinations. (THC)

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ON THE STATUS OF DISTANCE EDUCATION IN THE WORLD IN THE 1980s - A PRELIMINARY REPORT ON THE FERNUNIVERSITÄT COMPARATIVE STUDY

Börje Holmberg

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Zentrales Institut für Fernstudienforschung (ZIFF)

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This is a presentation of the findings made by the group responsible for ZIFF project 1-2.29, Comparative Distance Education

Project team members:
(listed according to their respective area of investigation)

ORGANISATION:	DIPL.OEC. ROLF NEUHOFF
	DIPL.OEC. JOACHIM RIECHEL
MEDIA:	DR. FRANK DOERFERT
TEACHING AND LEARNING:	DR. HELMUT LEHNER
	DR. MONIKA WEINGARTZ
STUDENT SUPPORT AND ACHIEVEMENT CHECKS:	DR. RUDOLF SCHUEMER
DOCUMENTATION AND DATA PROCESSING:	UTZ HANNING
	ANNETTE OBERMEIER
	RALF TOMASCHEWSKI
Project leaders:	PROF. DR. KURT GRAFF
	PROF. DR. BÖRJE HOLMBERG

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The plan followed in this paper does not reflect the division of work practised between the work-groups indicated in the list of project members. Thus, for instance, data culled from the work done on organisation are being used in the media section and in the section on general principles of teaching and learning.

The beginnings

Activities referred to as distance education, correspondence education and home study are nowadays widely spread. When in the *Institute for Research into Distance Education* of the *FernUniversität* in West Germany a comparative study was begun we found that we had in our files no less than about 1500 addresses of organisations in some way connected with this kind of education (distance-teaching universities, conventional universities with some distance teaching, schools, associations, companies, governmental or religious bodies). Whether a majority of them really provide distance-education services themselves is uncertain and among those which do some seem to cater for only highly specialised studies and small target groups (like the staff of a company). Apart from the bodies thus known to us there are undoubtedly several universities and other organisations in the world concerned with distance education, some of them in the form of odd projects which may develop into permanent activities. This will make it clear that, although we are making a thorough study of data known to us, we cannot claim to give an accurate, all-inclusive presentation of the status of distance education today.

After some preliminary studies we started our project by writing to all the organisations known to us and asking them to fill in a questionnaire we had developed in six languages (English, French, German, Polish, Russian and Spanish). Many of the recipients were known to us only by name, and of others we knew that they were evidently only marginally concerned with distance education. Our questionnaire was comprehensive and, among other things, asked for statistical information of a sensitive type. There were postal problems (in developing countries) and both ideological and bureaucratic problems (in Socialist countries). From the beginning we thus had to count with a high wastage percentage both in the sense that our questionnaire was unanswered and in the sense that replies had nothing to contribute. This proved a realistic assumption. We received 290 replies, out of which only 203 were of a kind to make an evaluation useful. From the USA 37 replies were received, from the United Kingdom 23, from Australia 22, Canada 16 and the Federal Republic of Germany 15. Of the East Bloc countries only Poland replied.

Purposes of the study

Lack of systematic documentation on distance-teaching institutions was what originally caused the study. We wished to create a data bank which allowed easy access to information. The data bank was meant to give us a reliable basis for the description of distance-teaching organisations, for the identification of organisations meeting specific criteria, for analyses of the frequencies of certain characteristics and of the relation between these characteristics, for typology attempts and for a study of input-output relations. We also meant to - and now offer - our own scholars and external colleagues the use of the (computerised) data bank as a source of information.[1]

The present study has been planned to be carried out in three steps:

1 A questionnaire study of organisation, teaching, learning, counselling, examining, student service, and media applied followed by quantitative and qualitative analyses.

2 A second round of contacts with (selected) institutions to obtain deeper insight, explanation and understanding.

3 A study of the influence of frame factors and social contexts (literacy, industrialisation, GNP, educational structure of countries concerned etc.), mainly in the form of secondary analyses of information already acquired.

So far the first step only has been taken.

The concept and types of distance education

To make it clear what we meant and mean by distance education and thus what we wanted to get information about a few words of characterisation should be said. By distance education we mean the various forms of study at all levels which are not under the continuous, immediate supervision of tutors present with their students in lecture rooms or on the same premises, but which, nevertheless, benefit from the planning, guidance

[1] On this last point The International Centre for Distance Learning based in the British Open University offers further services (Jenkings 1983).

and tuition of a tutorial organisation. Keegan 1980a - b stresses as the main elements of distance education

- o the separation of teacher and learner which distinguishes it from face-to-face lecturing
- o the influence of an educational organisation which distinguishes it from private study
- o the use of technical media, usually print, to unite teacher and learner and carry the educational content
- o the provision of two-way communication so that the student may benefit from or even initiate dialogue
- o the possibility of occasional meetings for both didactic and socialisation purposes
- o the participation in an industrialised form of education.

This reference to industrialisation is based on Peters' well-known analysis of distance study as an industrial type of teaching and learning, which includes planning, rationalising procedures, division of labour, mechanising, automation and controlling and checking (Peters 1971 and 1973).

As shown by Bååth 1981 the general relevance of the last two of the six elements listed by Keegan is questionable. Bååth points out that

- o high-quality distance education <u>can</u> be provided - and sometimes <u>is</u> provided - entirely at a distance, in courses where there is no possibility of additional face-to-face meetings
- o although most distance teaching can be characterised as industrialised teaching, there certainly are forms of distance education- e.g. a number of small-scale projects at the university level - that cannot be described this way but rather as teaching of a 'handicraft' type.

Within a continuum of varying approaches there seem to be two clearly outlined poles representing different schools of thought on distance education, one stressing individual study and individual, non-contiguous tutoring on the basis of course materials produced for large groups of students (cf. Thorpe 1979), the other aiming at parallelism with resident study and usually including class or group teaching face-to-face as a regular element. Whereas the former may represent the type of industrialisation

leading to rationalisation and economies of scale discussed by Peters and considers distance education to be basically different from face-to-face education, distance education is to the latter merely a form of distribution for which even the same tutor-student ratio for distance study and on-campus study is considered acceptable and even advantageous (Sheath 1969). The former represents a large-scale approach of the Open University and traditional correspondence school types, the latter a small-scale approach, for which the Australian University of New England can be regarded as a prototype (Smith 1979). There are several varieties of the two types thus indicated, and also intermediary positions were known when the project started. Characteristics, similarities and distinctions in this and several other respects, particularly as to the degrees of adaptivity to students' needs and wishes, what we call learner 'friendliness', and as to the role of students' independence have been studied.

Findings

In this report on what we have found out so far I wish to concentrate on four rather wide aspects. They are: 1) Organisation, 2) the Media used, 3) General principles of teaching and learning with special reference to the degree of independence expected of distant students or developed by distance education, 4) Student support and examinations. Some early documentation of this project work can be referred to, thus Doerfert 1984 and Holmberg 1981a. More detailed reports about the project data are being prepared and will also be published in 1985 (in German).

1 Organisation

1.1 Area of research

The organisation of distance-teaching schools and universities, including both the organisational structure and the work-process principles and rules created to meet certain aims, influences the educational possibilities very strongly as it constitutes their financial-administrative frame. When distance-teaching organisations are founded and expanded it is far from easy to pay full attention to all aspects relevant in this context as so far there is not much of a grounded organisational and management theory for distance-teaching systems and as traditional organisational principles are only partly applicable (Graff 1981).

Any attempt to optimise the organisation is dependent on knowledge or assumptions about the educational consequences of organisational processes. Some illumination of this can be provided by a comparison of existing distance-teaching organisations as to the characteristics of their organisation and the relation between the organisation and the teaching-learning system. The present study provides some relevant material for such a comparison.

1.2 Data

63.5 % of the organisations which answered our questionnaire are public bodies, 30.5 % are private organisations of different kinds and 6 % belong to associations, churches and political groups etc. 39.8 % of them are autonomous, whereas 60.2 % are departments either of traditional schools or universities (37.2 %) or parts of other organisations (23 %). No less than 79.4 % have a centralised organisation with one centre as decision maker.

The data available seem to indicate that the number of public bodies engaged in distance education has grown considerably during the last few years (34.7 % of them were founded after 1975). Only 2.5 % of all the distance-education organisations starting after 1975 belong to the private sector.

There can be little doubt that the private distance-teaching organisations are underrepresented in our study. Whereas the data about the latest developments probably represent general tendencies it is evident that too few private organisations, particularly in the U.S., have answered the questionnaire for a true picture to emerge.

The reasons why distance education is provided and the aims of the organisations differ somewhat in relation to the type of body in charge. The public distance-education organisations are largely concerned with university teaching and regard the opening of study opportunities to new target groups as their main task. This is what 66.5 % of the respondents state. 42 % stress further education as their main task, whereas 33.5 % describe the increase of the number of places for students as their first priority. Surprisingly enough little attention is paid to the possibilities usually considered inherent in distance education for reducing costs. Only 7.5 % refer to cost reduction as an aim. The introduction of innovations plays an important part among the private organisations, whereas further education is the chief concern of 75 % of the associations, churches etc.

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The organisations answering our questionnaire together include about 1.3 million distant students. Most of the respondents have less than 5,000 students enrolled (70.3 % of them) and their staffs include fewer than 100 people (78.8 %). Private institutions tend to be large, but seem to manage with a comparatively small staff. On the other hand public bodies tend to be fairly small as far as the number of students are concerned, but usually have quite a big teaching staff.

The service offered by distance-teaching organisations mainly concerns teaching, a task which all organisations have in common. Further some 90 % of them offer counselling and student service of different kinds. 64 % of the respondents do research on distance education. The main medium is the printed word (course units). 96 % of all respondents use printed course units. Face-to-face sessions seem to play an important role (61.4 % of the respondents make use of these). On the use of media see below.

A great number of further data as to the size of different types of distance-education institutions and their organisational structure have been collected, but do not seem to be of a kind to contribute anything new to the above typology attempt or make a discussion profitable at the present stage. Data, which are to be collected as a second step, will be awaited.

2 Media

As the use of media is one important characteristic of distance education a study of the application of various media has been found essential.

An analysis of the replies to questions about media used shows, not unexpectedly, that in most cases printed courses constitute the main medium of presentation. However, also other media are described as the *most important ones* for the presentation of learning material. These are the figures:

- Printed courses 138
- Printed courses combined with audio cassettes 13
- Printed courses combined with face-to-face sessions ... 10
- TV and printed courses 4
- Radio, printed courses and audio cassettes 3
- Radio and TV programmes 3
- Radio programmes 3
- Radio programmes combined with printed courses 2

In more than 2/3 of all cases contacts between student and counsellor (tutor-counsellor) are initiated by the institution; only in 1/3 of the cases is this done by the student.

4.2 Student 'friendliness'

As indicated above it was found possible and particularly interesting to study the 'friendliness' of the teaching, i.e. the adaptivity of the distance teaching to students' individual needs and wishes. Hypotheses were developed to the effect that distance-teaching institutions were regarded by the students as 'friendlier'

- if they provide counselling and other types of student support and if counselling and individual tutoring is considered important as well as if the student-support services are more or less constantly accessible
- if the distance-teaching institutions initiate contacts with students who have not been heard from (intervention in the face of possible drop out)
- if the institutions allow students to submit assignments whenever it suits them (thus no prescribed deadlines for submission)
- if the assignments are not only corrected but commented on fully and individually; and
- if the turn-around-time of the assignments, i.e. the time from the student's dispatch of the assignment until its return with the tutor's comments, is short.

It is, of course, also possible to relate the question of friendliness to the possible relevance of attainments on assignments for final marks. On the one hand it is possible that assignments and corrections as well as comments are considered as more helpful by students if they have no character of sanction, i.e. do not influence final marks. On the other hand the possibility cannot be excluded that the influence of assignment attainments on final marks can be experienced as encouraging, particularly by students who are to some extent extrinsically motivated.

- Textbooks 2
- Audio cassettes 1
- Face-to-face sessions 1
- Films and slides 1
- Printed courses combined with cassettes and face-to-face sessions 1
- Printed courses, telephone and face-to-face sessions 1
- Printed courses and telephone 1
- Radio and TV programmes combined with printed courses and audio cassettes 1
- Radio and TV programmes, printed courses and face-to-face sessions 1
- Radio and TV programmes combined with printed courses 1
- Radio, printed courses and face-to-face sessions ... 1
- Textbooks combined with printed courses 1
- TV combined with printed courses and telephone 1
- TV, printed courses and face-to-face sessions 1
- TV programmes 1

Some of the replies here may be due to misunderstandings. It is difficult to see how face-to-face sessions can constitute the main medium of distance education, for example.

36 out of 194 organisations state that they offer their students a choice between different media. The following table shows the numbers and percentages of media related to these 36 organisations:

Radio	TV	Printed course units	Audio cassettes	Video	Films	Slides	Computer-ised teaching& learning	Telephone	Face-to-face sessions	Other media
11 (5.7 %)	16 (8.3 %)	35 (18.0%)	25 (12.9 %)	14 (7.2 %)	8 (4.1 %)	12 (6.2 %)	9 (4.6 %)	20 (10.3 %)	27 (14.1 %)	2 (1.6 %)

What reality these statements cover is far from evident. Questions to be asked are, for instance: To what extent do the individual media on their own present the learning matter? Are certain media combinations in any case required? It would seem to be unrealistic to expect of most of the above media that they alone could present the total learning matter independently of other media.

As already indicated one of the questions examined concerns the use of supplementary face-to-face teaching in distance education. Four categories could be identified. 8.6 % of the respondents regard face-to-face teaching as one of the main components of their teaching (category 1). 24.9 % include compulsory face-to-face sessions (category 2), 49.2 % offer to some small extent optional face-to-face sessions (category 3), whereas 17.3 % make no use whatsoever of supplementary oral teching (category 4).

The organisational analysis briefly mentioned above reveals interesting relations between different types of organisations as to their use of face-to-face sessions. This is the picture that emerges for the 197 organisations that gave information about their work in this respect.

Category	State-owned organisations	Official bodies (universities etc.)	Private companies	Private non-profit organisations	Other types of organisation	No organisational characterisation
1	6 (12.2)	6 (8.0)	1 (2.9)	2 (8.3)	1 (8.3)	1
2	6 (12.2)	25 (33.3)	4 (11.8)	10 (41.7)	4 (33.3)	0
3	28 (57.1)	38 (50.7)	16 (47.1)	8 (33.3)	5 (41.7)	2
4	9 (18.5)	6 (8.0)	13 (38.2)	4 (16.7)	2 (16.7)	0
	49 (100.0)	75 (100.0)	34 (100.0)	24 (100.0)	12 (100.0)	3

136 out of 203 organisations state that their courses are parts of curricula developed by their own organisations. This evidently implies that these organisations have to pay due attention to all aspects of course development inclusive of the use of media. To what extent this concern also leads to research and development work is to be further looked into as well as the outcome of such work.

77 organisations claim to develop their courses in course teams consisting of between 2 and 10 members. However, 20 organisations use course teams consisting of 3 members, 24 course teams consisting of 4 members. The qualifications and tasks of the course-team members are to be examined with a view to finding out, for instance, if media specialists belong to them and, when this occurs, how the cooperation with the subject specialists is brought about.

43 out of 203 organisations offer study-centre facilities to their students. 27 of them supply audio- and/or video cassettes in these centres. Laboratories/workshops are provided by 57 out of 203 organisations; computer facilities (terminals, microcomputers) are used by 42 out of these 203 organisations,whereas other types of equipment are referred to by 54 of them.

To facilitate learning from texts 92 out of 185 organisations include tables and graphics in their printed texts. Whereas it is evident that certain texts are particularly suitable for visualisation of this kind, for instance statistical contents, it seems to be worth while finding out what other types of texts are being provided with tables and graphics, if any kind of typology of texts supplemented by these aids is possible and if there are special types of contents which particularly lend themselves to integration with tables and graphics to facilitate learning. In the course of the continued project work experimental studies will, if possible, be made in cooperation with organisations which so far make no use of tables and graphics to find out whether alternative versions including these aids will make learning easier and more effective.

What has been found out so far about the use of media in distance-teaching organisations will thus serve as a basis for further work. This is planned to comprise:

- An analysis of further distance-teaching materials as to their use of various media
- An analysis of the theoretical concepts behind the presentation of this material (e.g. what basic literature was relied on for guidelines).

On the basis of these analyses we hope it will be possible to develop a theoretical concept for the use of media in distance-teaching courses and to formulate at least preliminary hypotheses. The testing of the hypotheses is meant finally , if possible, to lead to suggestions for alternative, prescriptive principles.

3 General principles of teaching and learning

Some 55 % of the respondents state that they regard the combination of a pre-produced course and mediated two-way communication as the most important type of teaching. However, no less than 45 % consider the pre-produced course to be the most important element, whereas only seven respondents describe the interaction between the learner and the supporting institution as the most important element. As few as ten respondents declare that they make use of study-guide courses, i.e. courses based on prescribed or suggested reading of texts not necessarily developed by the supporting organisation itself.

3.1 Flexibility

A study of the flexibility of distance education as seen from the students' point of view shows that almost two thirds of the respondents allow their students to pace their study according to their personal possibilities and wishes. Thus 64.7 % allow their students to submit assignments whenever they wish to.

In other aspects the respondents do not seem to allow their students less freedom to organise their study, however. Only 1.5 % of them allow their students simultaneously

- to start their study at any time that suits them and to submit assignments whenever it suits them
- to decide if they wish to take part in face-to-face sessions or not
- to choose between different media
- to use, if and whenever it suits them, counselling and student-support services offered.

57.8 % offer the students several although not all of the possibilities listed for their free choice, whereas 40.9 % allow their students very little or no choice at all.

To judge from the material collected, flexibility offered to students does not seem to be conducive to more success than strictly controlled study. On the contrary there is a negative correlation (rho = -.15)[1] between completion and the number of choices available to individual students.

Regrettably there can be no doubt that the replies given to our questionnaire provides a biased picture of reality in the respects mentioned. If a larger number of private organisations, for instance the American schools organised in the National Home Study Council, had answered the questionnaire there would without any doubt whatsoever have been many more schools included in the study representing a high degree of flexibility.

3.2 Evaluation

Course evaluation and systems evaluation is considered important by most respondents. Thus 73.6 % of them state that they systematically evaluate their courses. 61.2 % include the achievements of the students on assignments in this evaluation, whereas practically all respondents make use of the experience of their tutors. Completion and drop-out figures are measured by about 75 % of the respondents, whereas no less than 86.2 % analyse the turn-round time of assignments submitted.

3.3 Student independence

The application of further basic educational principles can be - and has been - studied on the basis of the descriptions that individual distance-teaching institutions have given of their work. The questionnaire and the replies given to the questions asked provide some material of considerable interest in this context. Thus, it proved possible to identify two characteristic approaches to student autonomy in that some distance-teaching institutions largely expect and base their work on the assumed prevalence of students' capacity to work independently, whereas others more endeavour to develop a degree of independence not expected to be of ordinary occurrence among new students. The criteria, on which this distinction is based, can be illustrated as follows:

---

1 Applying customary statistical terminology the coefficient of correlation between two ordinal scales is represented by rho (Spearman), a measure varying on a scale between + 1 and - 1. A rho of + 1 signifies a perfect, positive correlation, - 1 a perfect, negative correlation.

Support of student independence

View of man

Social balance as basic principle:

All men are dependent on support.
The success of the individual is promoted through supporting institutions.
Far-reaching support is regarded as a moral and social duty.

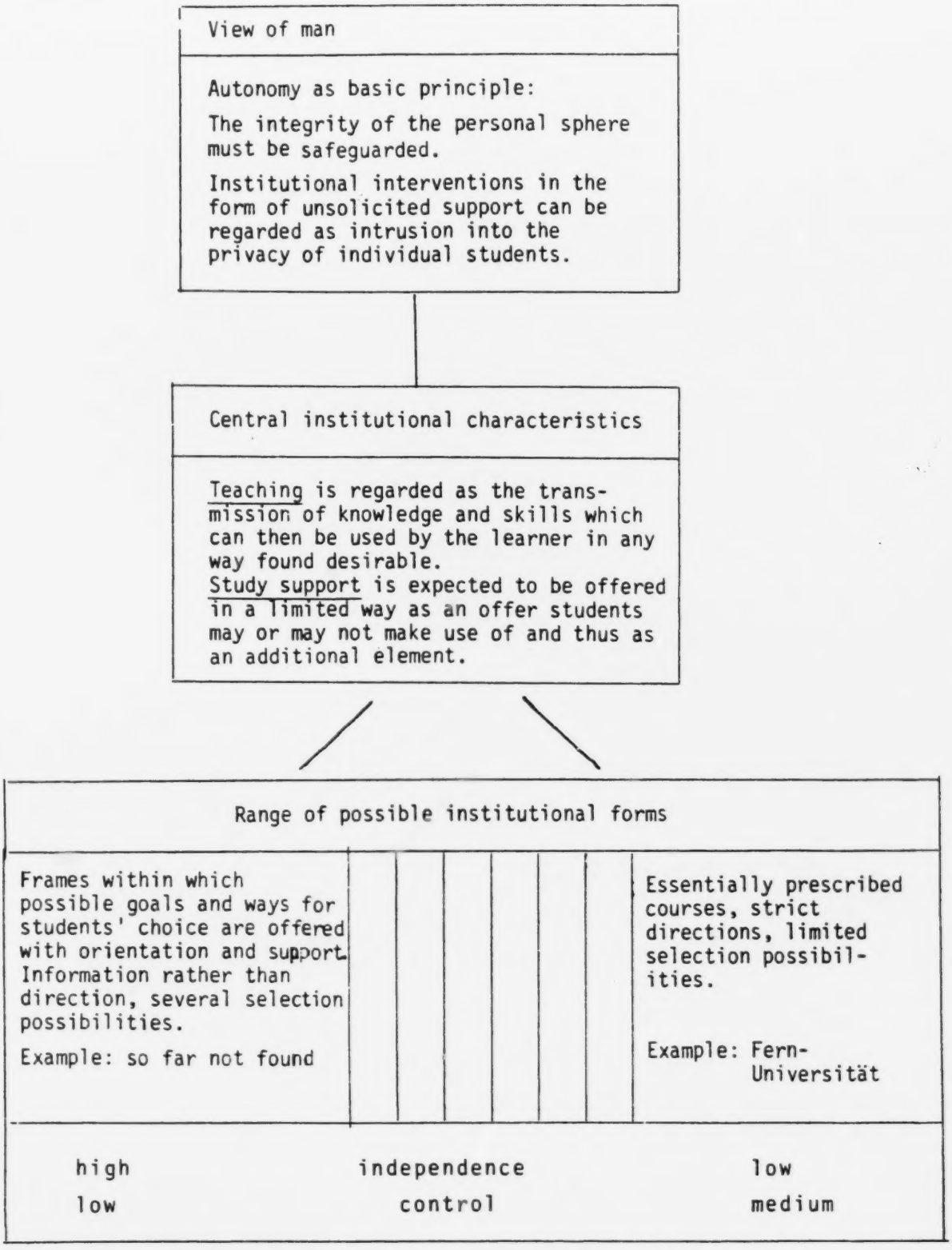
Central institutional characteristics

Teaching is regarded as support and facilitation of the learning of problem-solving skills in certain areas.
Support is expected to be given to a considerable extent. It can occur both as an offer to be accepted or rejected and as a directive intervention towards prescribed goals.

Range of possible institutional forms

Frames within which possibilities are offered to search for and identify individual goals and ways of study with the support of tutors. Example: Empire State College							Essentially prescribed courses with possibilites for individual selection and continuous active support and counselling. Example: The Open University (UK)
high medium to low			independence control				low high

Expectation of student independence


View of man
Autonomy as basic principle:
The integrity of the personal sphere must be safeguarded.
Institutional interventions in the form of unsolicited support can be regarded as intrusion into the privacy of individual students.
Central institutional characteristics
Teaching is regarded as the transmission of knowledge and skills which can then be used by the learner in any way found desirable.
Study support is expected to be offered in a limited way as an offer students may or may not make use of and thus as an additional element.
Range of possible institutional forms
Frames within which possible goals and ways for students' choice are offered with orientation and support. Information rather than direction, several selection possibilities.
Example: so far not found
Essentially prescribed courses, strict directions, limited selection possibilities.
Example: Fern-Universität
high
low
independence
control
low
medium

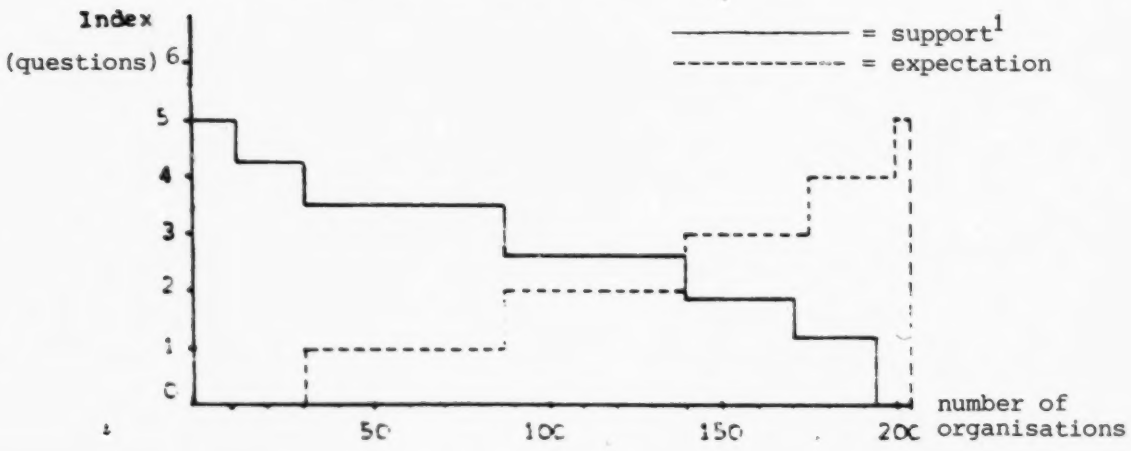
These distinctions are based on indices for

support of student independence	expectation of student independence
1 The main goal of the teaching is capacity to solve problems.	1 The main goal of the teaching is to transmit facts.
2 Examination requirements are directed towards problem solving.	2 Examination requirements are directed towards the reproduction of facts.
3 Learners are made to query statements etc. (in the learning material).	3 The pre-produced course material is considered to be the most important course component.
4 Students take active part in research if the degree of support of student independence is very high.	4 It is left to the student to initiate contact with the supporting organisation.
5 Continuous contact is catered for in that the supporting organisations approach students from whom nothing has been heard for some time.	5 Tutor comments on assignments submitted are limited to what is considered absolutely necessary.
6 Counselling and tuition services are usually available also outside office hours	

The correlation between the two indices for support and expectation of student independence is rho = -.70 ($p < .001$).[1] The relatively high negative correlation results from the circumstance that the two indices contain some question-initiated statements which practically exclude each other (see, for instance, the first item of each of the above two lists). Nevertheless a certain structuring emerges which allows an identification of supporting and expecting characteristics:

[1] The symbol p denotes probability. The statement $p < .001$ indicates that the probability of the event occurring by chance alone is smaller than one in 1000, $p < .01$ that it is smaller than one in 100 etc.

Distribution of support and expectation as applied by the organisations studied



An analysis of the replies submitted further reveal the following characteristics.

Support of student independence		Expectation of student independence
	GOALS	
The commitment to social responsibility tends to have the following activity consequences: - Innovation attempts as to organisation, teaching and student support - Research - Further education in the interest of equality - Evaluation (courses, success and failure, etc.)		A basic liberal principle causes what can be described as a somewhat conservative attitude. - There is little interest in modern, costly media. - General education is particularly stressed, frequently at university level.

CENTRAL INSTITUTIONAL CHARACTERISTICS

Teaching:	Teaching:
Organised attempts to improve the course materials (course teams, various didactic measures, etc.)	Traditional course offer, usually as transmission of knowledge already known (rather than problem solving).
Student support:	Student support:
Institutional interventions are regarded as moral duties. Student support is considered a core concern.	An offer of services that may or may not be used.

[1] Mean scores calculated in relation to the expectation index

The institutions that support students' independence exert much more control over students than those which expect student independence from the beginning. Some significant correlations:

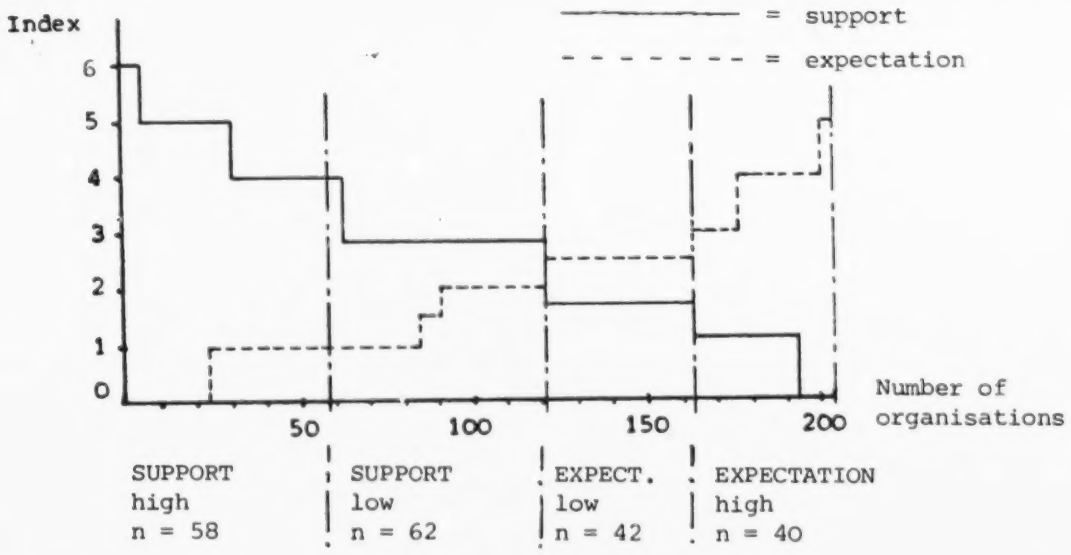
Organisations characterised by their support of independence

- use the telephone much more frequently than the others: rho = .27 ($p = .001$) vs rho = -.18 ($p < .01$)[1]
- more frequently form course teams: rho = .24 ($p < .001$) vs rho = -.18 ($p < .01$)
- favour group work among students more: rho = .33 ($p < .001$) vs rho = -.20 ($p < .01$)
- tend more frequently continuously to check on students' progress: rho = .33 ($p < .001$) vs rho = -.20 ($p < .01$)

As to general measures of control (face-to-face sessions, achievement checking, work groups, strict structuring of courses with special procedures to facilitate the learning of texts and for counselling) the correlations are for support of independence rho = .41 ($p < .001$) for expectation of independence rho = .18 ($p < .01$). Similarly individual control (contacts with students, telephone counselling, individual counselling, much support) shows a correlation of rho = .29 ($p < .001$) for support of independence. There is no correlation for expectation of independence.

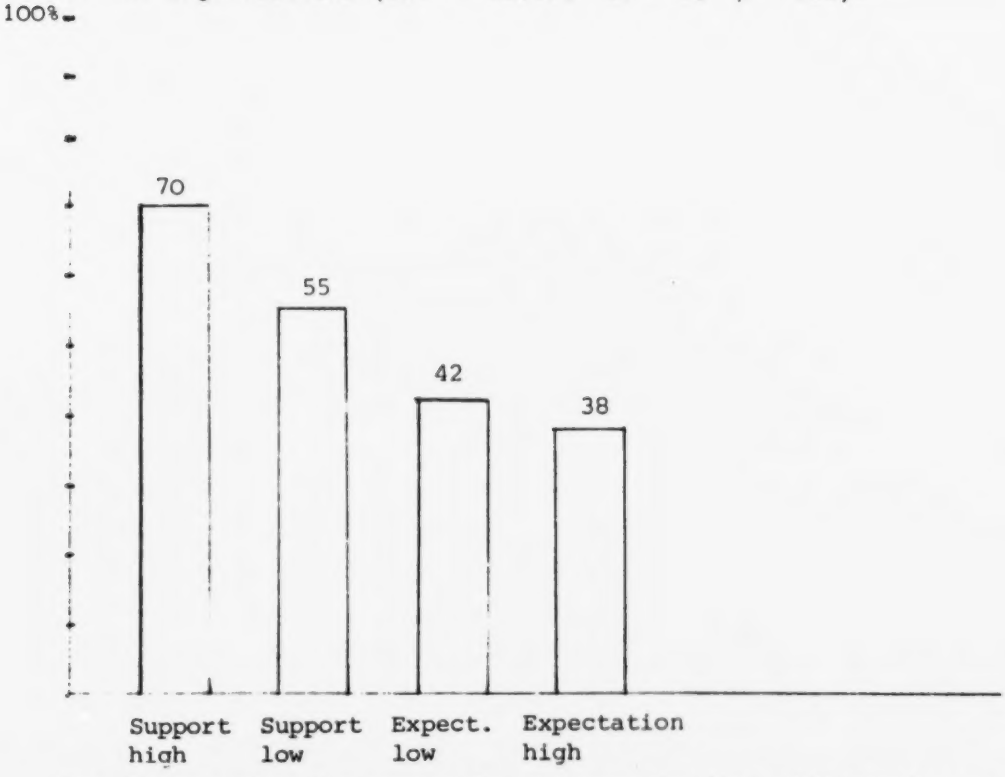
Course completion as an indication of success is favourably influenced by support of independence: rho = .34 ($p < .001$) vs rho = -.21 ($p = .01$).

As independence supporting and independence expecting organisations are not or only partly exclusive concepts as understood here, further differentiation is required. Thus we find it necessary to distinguish between highly supporting organisations, little supporting (low support), little expecting (low expectation) and highly expecting institutions.



The two groups supporting independence include 60 % of the organisations studied against 40 % of organisations expecting independence. While there are only modest differences as to support and expectation between the two middle groups, correlations with other variables (such as achievements' variables) supply the reasons for the differentiation between them.

The four groups differ significantly with respect to the completion rates of the organisations ($Chi^2 = 12.87$; $df = 3$; $p < .01$):[1]



The figures show the proportion of organisations with completion rates above the median of the total distribution.

[1] Tested by the Kruskal-Wallis test.

4 Student support and achievement checks

In distance education counselling and tuition are often - through the use of assignments for submission - so closely connected with the checking of students' achievements as to be inseparable from it. The assignments serve as a kind of small examinations revealing students' standards of knowledge and skills at the same time as they are the starting-points for tutors' comments, suggestions and other teaching contributions. As the assignments are often the most important - or can even represent the only - two-way communication between students and their tutors, their character and how they are used largely decide whether in the spirit of Delling the distance-teaching institutions can be recognised and regarded as a 'supporting organisation'. This is related to the potentials of distance education of being adaptive to students' needs and wishes, to be experienced as more or less friendly. This aspects will be dealt with below. First, however, some general findings.

4.1 General data

Almost two thirds of the distance-education institutions which have answered the questionnaire make use of continuous achievement checks. In most cases the achievements on assignments submitted influence the final mark. Three fourths of the respondents expect the learners to submit an assignment per course unit. The majority of the respondents allow students to submit assignments when they wish to.

Different types of assignment formats and types of solution are used beside one another: 69 % make use of forms to be filled in for solutions to problems and other assignment questions; 88 % expect students to answer short open questions; 90 % expect an essay; 73 % use multiple-choice questions, which, however, are used by 64 % of the users of these questions only for certain types of content.

Most respondents find it very important that students' answers to and solutions of assignment questions and problems should be commented on by the correcting tutor. Thus 84 % reject mere correction without comments. However, the comments actually provided seem to be very short, according to the replies half a page or less in 78 % of all cases. The comments given are overwhelmingly written for the individual students (94 %), only in 17 % of all cases are pre-produced text modules used.

The turn-around time varies very much, between 1 and 90 days (median about 9 days). 86 % of the respondents state that their students are satisfied with the turn-around-time. 61.2 % pay attention to students' achievements when courses are evaluated.

In replies to questions about the purposes of self-checking assignments distance-education institutions tend to stress the retention of facts (77 %) and practice (71 %); to develop critical approaches is the purpose in only 27 % of the replies.

No less than about 2/3 of the respondents offer recognised examinations or certificates. The time required to obtain the competencies concerned varies between half a year and nine years; the median is 1 1/2 years. Examination questions are usually (63 %) developed by the teaching institution itself, in almost 25 % of the cases by external examining bodies and in 10 % by 'mother institutions'.

About 90 % of the respondents have an organisation for counselling and student support. This service is mainly provided in writing (86 %) and by telephone (78 %). Audio-cassette correspondence occurs in 12 % of the cases. Surprisingly enough about 3/4 of the respondents state that they offer counselling and other types of student support by means of direct, personal contacts. It is possible that the question was not lucid enough; the respondents may not have thought exclusively of face-to-face contacts.

Almost half of the respondents assign a personal counsellor (tutor-counsellor) to each student (48 %). This seems to be contradicted by the fact that 62 % of the respondents state that there are different counsellors for different problems or areas and that 72 % reply that students' problems and questions are received centrally and then handed on to specialists.

Practically all institutions (95 %) state that they encourage students to approach counsellors and tutors; the percentage of the students who actually do this varies between 5 and 100 % (median between 25 and 30 %).

Counselling and other student-support services are available during office hours in 39 % of all cases mentioned, constantly 27 %, on week days after office hours 13 %, and at week-ends 7 %; 14 % refer to other kinds of accessibility.

Statistically significant correlations relevant to the concept of 'friendliness' could be established. Thus,

The tendency to initiate contacts with students who have not been heard of is greater

- if the distance-teaching institution provides organised counselling and student-support service (phi = .19 ; $p < .01$)[1] or
- if the interaction between learner and tutor is regarded as important (phi = .19; $p < .01$).

If the interaction between learner and tutor is considered important

- then mere correction of assignments is not considered enough (phi = .20; p = .005) and
- then the comments of assignments tend to concentrate on the individual achievements of the student (phi = .19; $p < .01$).

If the distance-teaching institution is in the habit of contacting students who are not heard from

- then the tendency to comment on individual achievements is greater (phi = .23; $p < .005$) and
- there is a tendency to shorten the turn-around-time of student assignments (phi = .24; p = .001).

Comments on assignments submitted tend to be longer

- if the mere correction of assignments is not considered satisfactory (phi = .18; $p < .01$) or
- if comments on individual achievements are included (phi = .20; $p < .005$).

In the cases when mere correction of assignments is not considered satisfactory there is a tendency to comment on individual achievements (phi = .30; p = .001).

The positive coefficients, i.e. the tendencies, correspond to expectations.

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[1] The phi coefficient (for 2 x 2 tables) is used to describe the degree of relationship between two naturally dichotomous or for special reasons dichotomised variables. Significance, tested by Fisher's exact (one-tailed) probability test, here means $p \leq .05$, i.e. that the probability of an event's occurrence by chance equals or is smaller than five in one hundred.

If the achievements on the submission assignments influence final marks
- the tendency not to comment on the assignments is greater (phi = .18; $p < .01$) and
- individual achievements on the assignments tend to be commented on (phi = .21; $p < .005$).

It looks as though the distance-teaching institutions which consider achievements on assignments to be relevant for final marks are particularly prepared to give attention to the commenting on assignments submitted (apart from mere correction).

If the 'friendliness' concept is to be of use there must be some connection with study success. The characteristics of friendliness can be related to success and failure if course completion is regarded as success and this is contrasted with no submission whatsoever of assignments. It was found that the percentage of successful learners[1] increases
- when the distance-teaching institution initiates contacts with learners who are not heard from (phi = .18; n = 138; $p < .05$),
- when mere correction of submission assignments is not considered satisfactory (phi = .20; n = 138; $p < .05$),
- when tutors' comments on each assignment are at least half a page or more long (phi = .15; n = 138; p = .06[2]).

The percentage of students involved who submit no assignment tends to decrease
- when the distance-teaching institution initiates contact with learners who are not heard from (rho = -.16; n = 120; $p < .05$)
- when the comments on assignments are more comprehensive (rho = -.21; n = 120; $p < .01$) and
- when comments are given on individual achievements (rho = -.27; n = 120; $p < .01$)
- when mere correction of assignments is not considered satisfactory (rho = -.22; n = 120; $p < .01$)

The correlations between on the one hand student success and student failure and on the other hand indices of 'friendliness' show that

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[1] For these relationships the percentage scores were dichotomised.

[2] Not statistically significant.

- the percentage of successful students increases with increasing 'friendliness' (rho = .13; n = 138; p =.10[1])
- the number of students enrolled who submit no assignments decreases with increasing 'friendliness' (rho = -.18; n = 120; $p < .05$).

Some further correlations that may be of interest should be mentioned:

In the cases when the organisation encourages students to approach their tutor

- the 'friendliness' index is higher:
  rho = .28; n = 198; p = .001
- counselling and student support is considered important:
  phi = 20; n = 198; $p < .01$
- intervention when a student is not heard from tends to occur:
  phi = .16; n = 198; $p < .05$
- correction of assignments is accompanied by explanatory comments:
  phi = .22; n = 198; $p < .01$
- tutor comments on assignments tend to cover half a page or more:
  phi = .17; n = 198; $p < .05$
- comments tend to be individual: phi = .32; n = 198; $p < .001$
- assignment results tend to influence examination marks:
  phi = -.21; n = 198; $p < .01$.

In the cases when students can approach tutors and counsellors on the telephone

- the 'friendliness' index is higher (rho = .27; n = 169; $p < .01$)[2]
- there is a tendency not to allow students to submit assignments at any time that suits them (phi = -.18; n = 169; $p < .05$)
- mere correction of assignments tends not to be considered satisfactory (phi = .27; n = 169; $p < .001$)
- the size of assignment comments tends to be half a page or more (phi = .21; n = 169; $p < .01$).

If a personal tutor-counsellor is assigned to each student

- the 'friendliness' index is higher (rho = .28; n = 186; $p < .01$)
- the institution tends to initiate contacts to students who have not been heard from (phi = .21; n = 186; $p < .01$)

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[1] Not statistically significant

[2] Beginning here p for two-tailed test

- the students tend to be allowed more flexibility as to periods for submission of assignments (phi = .18; n = 186; $p < .05$)
- the turn-around-time for assignments tends to be shorter (phi = .19; n = 186; p = .01)
- the comments on assignments tend to be comprehensive (phi = .14; n = 186; p = .06)[1]
- the percentage of successful students is higher (rho = .18; n = 125; $p < .05$).

If a distance-teaching institution makes use of study centres for face-to-face meetings

- the learner 'friendliness' tends to be small (rho = -.16; n = 201; p = .06)[1]
- students' rights to submit assignments at any time that suits them is limited (phi = -.19; n = 201; $p < .01$)
- turn-around-time for assignments tends to be longer (phi = -.14; n = 201; $p < .05$).

A great number of further correlations have been established. Only the following should be added to those already accounted for. When courses are offered at the university level, students' freedom to submit assignments whenever it suits them tends to be smaller (phi = -.20; n = 197; p = .005). The same seems to apply to distance-teaching institutions offering recognised degrees, diplomas and other competencies (phi = -.38; n = 196; $p < .001$) as well as generally to distance-teaching institutions which are public bodies (phi = -.20; n = 200; $p < .01$). As opposed to this private institutions tend to offer their students flexibility in this respect (phi = .19; n = 200; $p < .01$).

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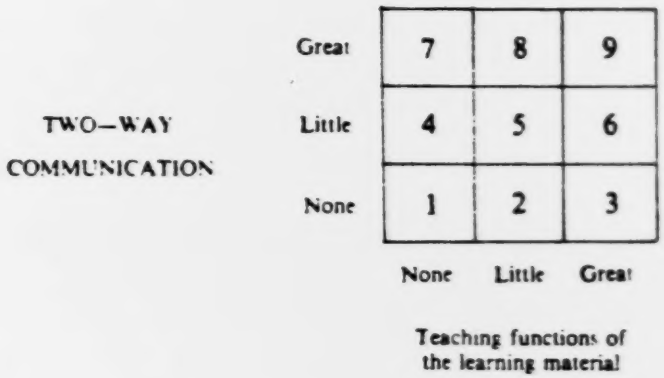
[1] Not statistically significant

Summary

The study reported on indicates that distance education as known today includes a great number of different approaches. The distance-education concept is not quite so wide, however, as recently suggested by John Bååth in his contribution to the ICDE Bulletin 5 (May 1984). There he illuminates his categorisation of different types of self-study and distance education as follows:



Bååth states that only type 1 'is definitely not a kind of distance education' (Bååth 1984 p. 71). The present study does not confirm this extremely open attitude, but indicates that types 1, 2 and 3, i.e. those that include no mediated two-way communciation, are to be excluded from the distance-education concept. Part of the explanation is, of course, that with Poland as the only exception there were no respondents from the European socialist countries in the present study.[1] The presentation of the basic characteristics of distance education made at the beginning of this paper on the whole agrees with the picture emanating from the study. The innovative character of distance education is widely recognised.

There seems to be wide-spread agreement that the innovatory character of distance education emanates from

- o the underlying ideas that learning can occur without the presence of a teacher
- o the consistent use of non-contiguous media both for the presentation of learning matter and for the ensuing communication

[1] In these countries there is, as a rule, little correspondence or telephone tutoring, self-instructional texts and face-to-face meetings constituting the basis of what is there called distance education.

- o the methods used to exploit the non-contiguous teaching/learning situation so as to attain the highest possible effectiveness for the individual learner: structure and style of presentation and communication, appropriate use of media available etc.
- o the particular organisation which makes it possible to provide for both independent individual learning and mass education through personal tutoring and division of work among those active in the supporting organisation
- o the influence distance education as described exerts on adult education, further training, labour-market and other social conditions through opening new study opportunities as well as through its methods and organisation; thus it has contributed to make the opening of universities and schools possible to would-be students without formal entrance qualifications. Cf. Holmberg 1981b p. 44.

The characteristics referred to all apply to the picture of distance education illustrated by the replies given to the questionnaire. However, they do so to a different extent. It seems to be proper to describe distance education as actually applied as a continuum starting rather close to conventional face-to-face teaching making use of print and other media and extending to systematic and full application of the peculiar characteristics of distance education. Cf. the large-scale vs. small-scale dichotomy referred to at the beginning of this paper.

Distance-teaching institutions are more or less aware of their innovative character. Some stress innovation as an essential goal. Not unexpectedly these tend to apply the principles agreeing with the concept of learner 'friendliness' discussed. Thus, for instance, they pay more attention to counselling and student support than others and their inclination to initiate contact with students who are not heard from is higher than from other respondents (phi = .15; $n = 203$; $p < .05$).

It is interesting to note that in some respects distance-education institutions which are public bodies or part of public bodies make less use of the innovative potentials of distance education than private institutions. Thus public bodies tend not to make use of the flexibility possible in allowing students to submit assignments when it suits them (phi = -.20; $n = 200$; $p < .01$). When the distance-teaching organisation is a department of a traditional school or university, the turn-around-time for assignments tends to be longer than in other cases (phi = -.15; $n = 192$; $p < .05$).

In the discussion about the potentials and contributions of distance education the question of student autonomy usually plays an important part. Cf. Moore 1983 and Wedemeyer 1981, for instance. In the present study this question seems to be illuminated in a way not entirely devoid of interest. To what has been said about this the following findings could be added. If in examination requirements problem solving is considered important beside factual learning, then more attention is given to the interaction between students and the supporting organisation (phi = .15; n = 185; $p < .05$), intervention when students seem to be in danger of drop out tends to occur (phi = .17; n = 185; $p < .05$), and learner 'friendliness' is higher (rho= .15; n = 185; $p < .05$). This is to be related to considerations about the possible threat to students' integrity that interventions by the supporting organisations might be regarded as.

Even if - as I believe - what has been reported on from the study made at the FernUniversität sheds some not unimportant light on distance-education practice,it is evident that the findings are of a preliminary type. What has been mentioned represents my selection of the findings.
Results have, as shown above, been accounted for also in cases when the statistical support is weak. To what extent the correlation figures are to be accepted as giving a convincing picture of practice is in many cases open to discussion.

The above is a short version of the first report on the investigation made so far. The work will continue . A number of respondents will be approached again with a view to obtaining more specified information, and further comparative analyses of this are to be undertaken so that when in a couple of years' time the project is completed it will represent a tangible contribution to comparative distance education.

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